



COURSEWARE FOR LEARNING BASIC TAJWEED

NURUL ERINAWATI BINTI MOHD MUKHIRI

A report submitted in partial fulfillment
of the requirements for the award of the degree of
Bachelor of Computer Sciences (Graphic & Multimedia Technology)

Faculty of Computer System & Software Engineering

Universiti Malaysia Pahang

DEC 2014

ABSTRACT

The purpose of this project is to develop courseware for learning basic Tajweed. This courseware is hoped to help the users to learn and understand Tajweed properly. Tajweed has many complicated rules, hence learning it is not always easy and fun. So, in order to overcome this problem, So, in order to overcome this problem, an attractive application is the modules of this courseware comprise of two parts which are Learning and Exercise. Learning module consists of explanation and example of Tajweed rules while Exercise module consists of series of questions to test the understanding of users. This courseware will hopefully improve the effectiveness of Tajweed learning compared to learning using conventional method. ADDIE model was chosen in development of this courseware.

ABSTRAK

Tujuan projek ini adalah untuk menghasilkan perisian kursus bagi mempelajari asas Tajwid. Perisian ini diharap dapat membantu pengguna untuk belajar dan memahami Tajwid dengan betul. Tajwid mempunyai banyak peraturan dan hukumnya yang rumit, akan tetapi untuk mempelajari Tajwid tidak selalunya mudah dan menyeronokkan. Oleh yang demikian, untuk mengatasi masalah ini, perisian ini dihasilkan dengan lebih menarik dan ia terdiri daripada dua bahagian iaitu Pembelajaran dan Latihan. Pembelajaran modul mengandungi penjelasan dan contoh peraturan Tajwid manakala modul Latihan mengandungi beberapa soalan untuk menguji kefahaman pengguna. Harapan semoga aplikasi ini akan meningkatkan keberkesanan pembelajaran Tajwid berbanding menggunakan kaedah pembelajaran secara konvensional. Model ADDIE dipilih dalam pembangunan perisian ini.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE
	ABSTRACT	i
	TABLE OF CONTENTS	iii
	LIST OF TABLES	vii
	LIST OF FIGURES	viii
	LIST OF APPENDIX	x

NO	TITLE	PAGE
1	INTRODUCTION	
	1.0 Introduction	1
	1.1 Problem Statement	2
	1.2 Aim	2
	1.3 Objective	3
	1.4 Scope	3
2	LITERATURE REVIEW	
	2.0 Literature Review	4
	2.1 Introduction	4
	2.2 Existing System and Relationship to Current Project	4-8
	2.3 Comparison of Existing System/Project	9
3	METHODOLOGY	
	3.0 Methodology	10
	3.1 Introduction ADDIE Model	10
	3.2 Justification of ADDIE Model	11
	3.2.1 Analysis Phase	11
	3.2.2 Design Phase	12
	3.2.2.1 Flowchart	13
	3.2.2.2 Storyboard	14-29
	3.2.2.3 Interface/Design	30-34

	3.2.3 Development Phase	35
	3.2.4 Implementation Phase	36
	3.2.5 Evaluation Phase	37
4	IMPLEMENTATION	
	4.0 Implementation Introduction	38-47
5	EVALUATION	
	5.0 Evaluation Introduction	48
	5.1 Participant of Tester	48
	5.1.1 Developer Testing	49
	5.1.2 Islamic Teacher Sekolah Sukan Malaysia Kuantan	49
	5.1.3 End User (Student Testing)	50
	5.1.4 Method of Testing	51
	5.1.5 Analysis from Questionnaire	52-55
	5.2 Expected Result	56
	5.3 Project Limitation	57
6	CONCLUSION	58
	APPENDIX	59-69
	REFERENCES	70

LIST OF TABLES

NO	TITLE	PAGE
Table 1.0	Comparison of Existing Tajweed Application	10
Table 3.1	Software used in Courseware for Learning Basic Tajweed	30
Table 3.2	Hardware used in Courseware for Learning Basic Tajweed	30
Table 5.1	Observation developer criteria	49
Table 5.2	Observation developer criteria	49
Table 5.3	Observation developer criteria	50
Table 5.4	Observation developer criteria	50
Table 5.5	Observation developer criteria	51
Table 5.6	Observation developer criteria	51

LIST OF FIGURES

NO	TITLE	PAGE
Figure 2.1	Example of Courseware named is Belajar Tajweed	5
Figure 2.2	Example of Courseware named is Learn Quran	6
Figure 2.3	Example of Courseware named is Tajweed and Taranum	7
Figure 2.4	Example of Courseware named is Learn Quran Qaida with Audio	8
Figure 3.1	ADDIE model	10
Figure 3.2	Flowchart of courseware module for Tajweed learning	13
Figure 3.3	Main Menu of Courseware	15
Figure 3.4	Module of Courseware	16
Figure 3.5	Module of Learning	17
Figure 3.6	Izhar Halqi Page of Learning Module	18
Figure 3.7	Ikhfak Hakiki Page of Learning Module	19
Figure 3.8	Idgham Bilalghunnah Page of Learning Module	20
Figure 3.9	Idgham Maalghunnah Page of Learning Module	21
Figure 3.10	Iqlab Page of Learning Module	22
Figure 3.11	Module of Tajweed Exercise	23
Figure 3.12	Izhar Halqi Page of Exercise Module	24
Figure 3.13	Ikhfak Hakiki Page of Exercise Module	25
Figure 3.14	Idgham Bilalghunnah Page of Exercise Module	26
Figure 3.15	Idgham Maalghunnah Page of Exercise Module	27
Figure 3.16	Iqlab Page of Exercise Module	28
Figure 3.17	Score Mark Page	29
Figure 3.18	Welcome Page	31

Figure 3.19	Main Menu	32
Figure 3.20	Izhar Halqi Page of Learning Module	33
Figure 3.21	Izhar Halqi Page of Exercise Module Level 1	34
Figure 3.22	Izhar Halqi Page of Score Module Level 1	35
Figure 4.1	Welcome page of the application	40
Figure 4.2	Main Menu of the application	40
Figure 4.3	Souce Code for Main Menu	41
Figure 4.4	Module of Learn Tajweed	41
Figure 4.5	Souce Code for Module of Tajweed Learning	42
Figure 4.6	Module of Izhar Halqi	42
Figure 4.7	Souce Code for Izhar Halqi	43
Figure 4.8	Module of Ikhfak Hakiki	43
Figure 4.9	Souce Code for Ikhfak Hakiki	44
Figure 4.10	Module of Exercise	44
Figure 4.11	Souce Code for Module of Exercise	45
Figure 4.12	Module of Idgham Bilalghunnah	46
Figure 4.13	Souce Code for Module of Idgham Bilalghunnah	47
Figure 4.14	Exit Page	48
Figure 4.15	Souce Code for Exit Page	48
Figure 5.1	Analysis Phase Evaluation	52
Figure 5.2	Welcome Page (Old Interface)	54
Figure 5.3	Welcome Page (New Interface)	55
Figure 5.4	Module of Learning of Iqlab (Old Interface)	56
Figure 5.5	Module of Learning of Iqlab (New Interface)	56

LIST OF APPENDICES

NO	TITLE	PAGE
APPENDIX A	Gantt Chart	59
APPENDIX B	Evaluation Form	60-61
APPENDIX C	Source Code	62-69

1.0 INTRODUCTION

Tajweed is a set of rules which govern how the Qur'an should be read. It is required by fard. Tajweed by definition is bettering, improving, and becoming excellent while functionally, it means articulating every letter in the Quran in its correct timing and from its proper point of articulation, as Muslims people need to study about the Tajweed and how to read Quran.

Tajweed is very important in reading al Quran. Wrong pronunciation would not only lead to meaningless phrase, it can also lead to different meaning of a particular verse. Furthermore, most Malaysians do not understand Arabic. This makes learning Tajweed even more difficult.

Quran recitation must be taken very seriously. Arabic letters each have a Makhraj, an exit or articulation point in the mouth or throat from which they originate. If a person does not know the attributes of each letter there is a danger that he will change the meaning of the words in Quran recitation. Observing the rules of Tajweed in reciting protects the reciter from making mistakes in reciting the Quran.

Therefore, this study was conducted to overcome the problems faced by teachers and students while learning the rules of Tajweed. Tajweed is not intended to be about just learning rules and committing them to memorize, but rather the correct application of those rules while reciting the Quran.

1.1 PROBLEM STATEMENT

In this modern era, many Muslims have poor comprehension and appreciation of reading Al Quran. It is because of lack of interest and knowledge about Tajweed. Younger generations mostly have no or less interests in learning Tajweed. This is probably because of the conventional learning method that does not attract them. Therefore, this courseware is developed to attract young and old generations to learn basic knowledge of Tajweed.

1.2 AIM

The aim of this project is to develop a courseware that can help people recite Al Quran properly using a correct Tajweed.

1.3 OBJECTIVE

- To design a friendly and attractive user interface for the courseware.
- To develop two modules of Tajweed learning i.e. Learning and Exercise.
- To transform the conventional learning material of basic Tajweed into e-material, this is courseware.
- To test the usability, functionality and features of this courseware from the user.

1.4 SCOPE

- This courseware is developed by using Adobe Flash, Adobe Photoshop software and HTML.
- Users only have the option to learn the basics of Tajweed correctly and make sure the rules by using a few verses of Quran provided.
- Basic Tajweed available to users which is :
 - I. Izhar Halqi
 - II. Ikhfak Hakiki
 - III. Idgham Maalghunnah
 - IV. Idgham Bilaghunnah
 - V. Iklab

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

This chapter briefs about existing of the application for learning Tajweed, the advantages and disadvantages of the existing applications.

Teaching is the very important process to deliver knowledge. At school as example, to be a good lecturer, the criteria needed are confident, knowledgeable, and articulate and has good judgment. A deliver or a teacher, they must have a methods or techniques to deliver the knowledge, to make sure the knowledge can reach to acceptors with correct and precisely. As an educator, they should be able to apply appropriate teaching methods to their teaching based on concepts and objectives of the subjects. Through of applications available in mobile application, website or as CD and VCD about learning Tajweed rules still have their own disadvantages. These are some of existing courseware and also their disadvantages and some advantages of that product.

2.2 EXISTING SYSTEM AND RELATIONSHIP TO CURRENT PROJECT

In this section, the existing system for Tajweed learning will be reviewed. These existing systems help to identify and discuss the advantages and disadvantages of it and design the project.

This application is very easy and simple to user especially for beginner. It also is providing examples and how to pronounce the Tajweed. This application also provides some Tajweed rules there are Noon Tanween, Mim Sukoon, Noon Meem Tashdid, Qalqala, Madd and Other rules. Besides that, it simplt touch the speaker icon functionality to come out the sound of Tajweed correctly. In addition, this application is once it installed, users no need internet connection for using the application so they can use it anytime and everywhere they want. The disadvantage of this application is because the user can only know Tajweed but do not know how to read them right or wrong. This is because the project does not provide a method to detect such a way of reading (voice recognition). The existing of this courseware features display in Figure 2.1 below.

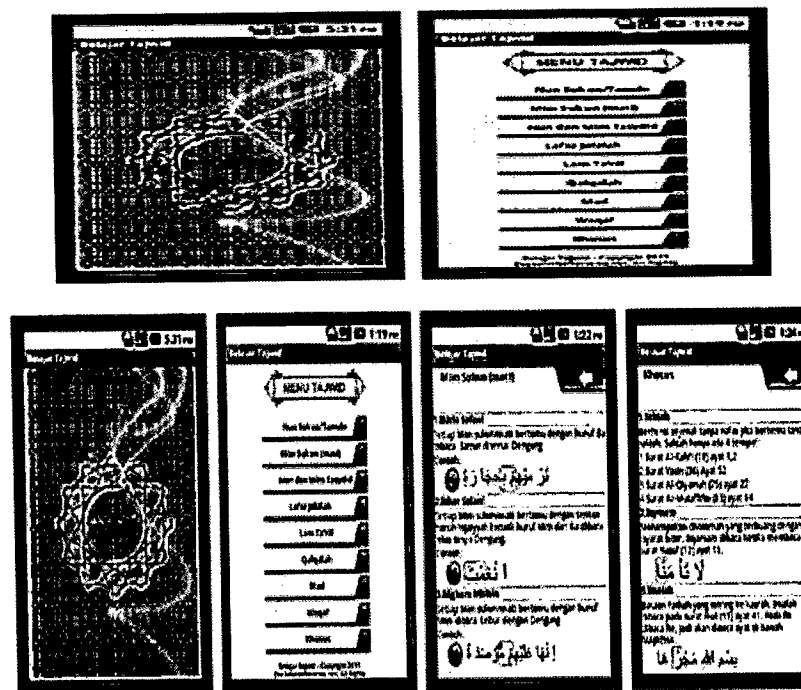


Figure 2.1: Example of Courseware named is Belajar Tajweed

This application features, it have voice narration for each item enables you to learn how to pronounce perfectly. Other than that, transliteration helps users on reading Arabic words, which can be turned on and off. It also can record user's voice then can compare or evaluated by teacher. This app is suitable for learner at any level. The application complies with Nur Romadon, a Quran learning methodology developed more than 10 years by professional Quran teachers. The app features Al-Hafeez Khoirul Muttaqin Lc. as the narrator, a professional Quran reciter with nice voice.

For this android application of Tajweed Learning, it provides three choices are for beginner, intermediate and advance user. However, this application just teaches about the basic rules of Tajweed and for every rules the user need to download the details. It make difficult for user if the certain time they need to know the rules as soon as possible but the need to take long time and also become problem if the Wi-Fi connection of user mobile very slow. The existing of this courseware features display in Figure 2.2 below.



Figure 2.2: Example of Courseware named is Learn Quran

For this android application of Tajweed Learning have a big problem for beginner because the user need to click the link to get the website for learning Tajweed. It same like if the user directly browse Youtube with a link for learning Tajweed. By using this application cannot save the user's time but it take a longer time to find a module that the users need to get Tajweed knowledge. The existing of this courseware features display in Figure 2.3 below.

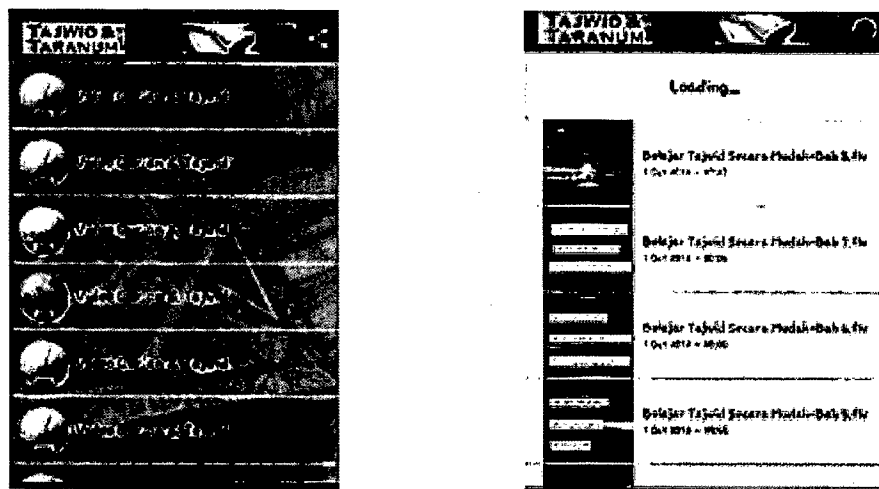


Figure 2.3: Example of Courseware named is Tajweed and Taranum

This application is about Learn Quran Qaida with Audio. This application is designed to teach about Tajweed and also Arabic letters in Quran, how to pronounce the Tajweed rules correctly and how to join them together perfectly and meaningful. This application only covers the Basic Rules of Tajweed. This application of learning basic Tajweed is suitable for any level too. This application developed to help people reading Quran with correct pronunciation in a very short time. This book application is specially designed and produced with the professional Reciter of Quran who does recite Quran Learning Book with audio and each letter. The whole word in this application also is supported with audio. The existing of this courseware features display in Figure 2.3 below.

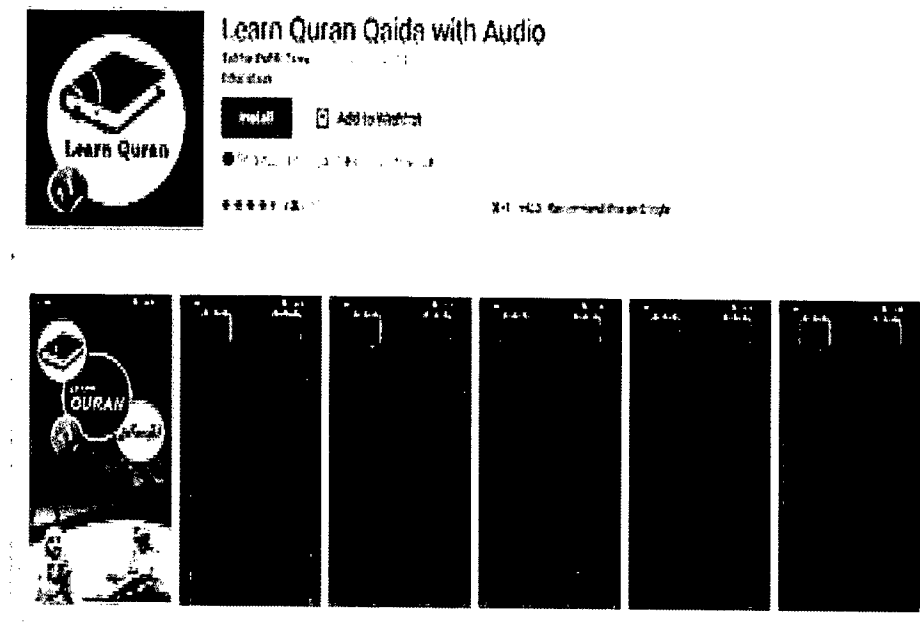


Figure 2.4: Example of Courseware named is Learn Quran Qaida with Audio

So that, for a new courseware that will develop and convert to smartphone application that have a voice recognition system to detect the speech of users while recite the some sentences of Quran. Besides that, it can help the users get a good feedback about their own pronunciation, very easy to use and easy to understand (friendly interface). For make it suitable for all, the coming courseware provide dual language choices is English and Malay. In addition, the new courseware will provide a module for every Tajweed rules and how to recite Quran with correct pronunciation with some sentences from Quran. The users don't need to browse any website link and download the information of basic Tajweed learning.

2.3 EXISTING PROJECT COMPARISON

Name of Existing Project	Types of Application	Functionality	Usability
Belajar Tajweed	Android	Providing audio, images and text	<ul style="list-style-type: none"> • Easy to use • Take less time to explore it • More satisfy for use
Learn Quran	Android	Providing audio, images and text	<ul style="list-style-type: none"> • Easy to use • Take less time to explore it • More satisfy for use
Tajweed and Taranum	Android	Not providing any voice or audio just images and text	<ul style="list-style-type: none"> • Take more time to download the Tajweed learning
Learn Quran Qaida with Audio	Android and Book	Providing audio, images and text	<ul style="list-style-type: none"> • Easy to use • Take less time to explore it • More satisfy for use

Table 1.0 : Comparison of Existing Tajweed Application

3.0 METHODOLOGY

3.1 INTRODUCTION OF ADDIE MODEL

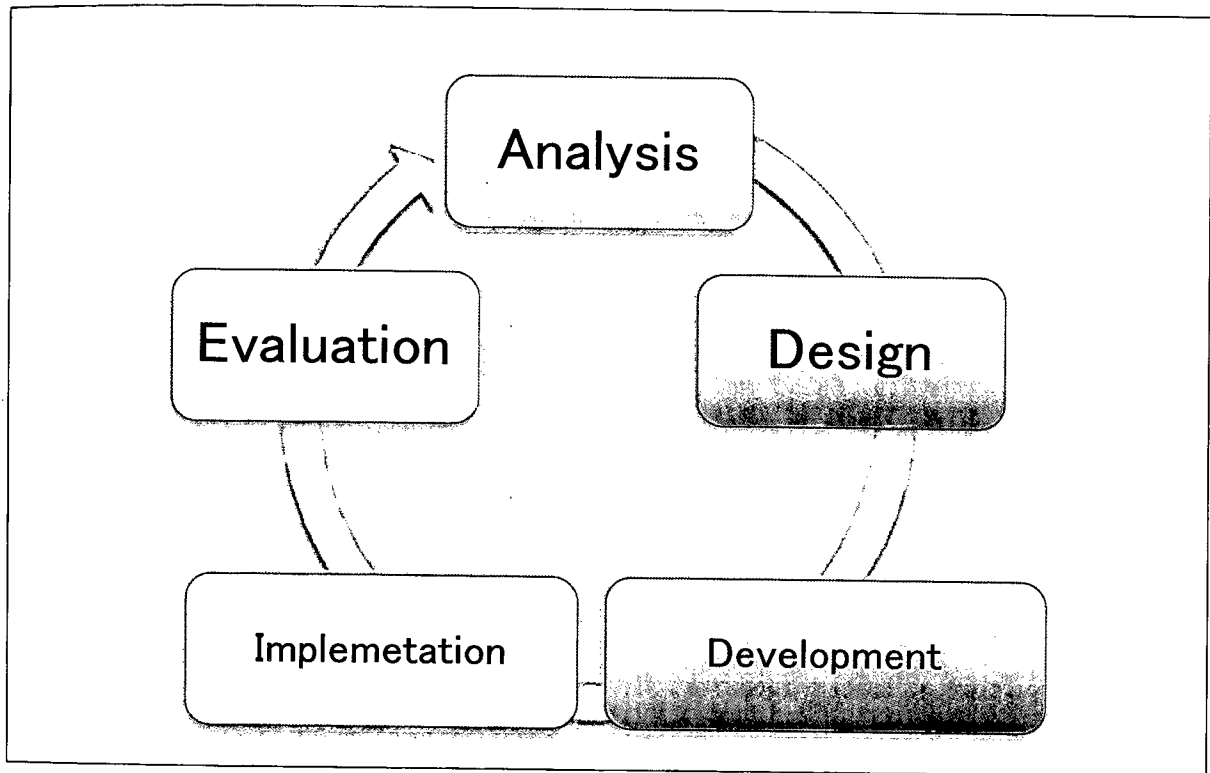


Figure 3.1: ADDIE model

ADDIE is used in the production of a system or any program. ADDIE have five phases, the first phase of the Analysis, the second is the Design, Development is third, fourth is the Implementation and final phase is the Evaluation. For each phase have its own criteria, to facilitate the work, for each phase should be consulted carefully and to ensure no mistakes then move on to the next phase. This is because the phase should be done in an orderly manner by sequence.

It is an Instructional Systems Design (ISD) model. Most of the current instructional design models are spin-offs or a variation of the ADDIE model. ADDIE is improvement to the model is the use of rapid prototyping. This is the idea of receiving continual or formative feedback. This is the idea of receiving continual or formative feedback while instructional materials are being created. This model can save time for developers and production money by catching problems while they are still easy to fix.

3.2 JUSTIFICATION OF ADDIE MODEL

3.2.1 ANALYSIS

The Analysis phase is the most important phase in the ADDIE model. The goals and objectives are set and the learning environment as well as the knowledge and skills are identified. During this phase, designer typically will review problems, goals and objectives, user's need, characteristics that should be incorporated in the new system. To ensure that all worked well, the designer must provide a schedule of work to complete and smoothly. Below are some of the questions provided in the analysis phase:

1. Who are the stakeholder and what are their characteristics?
 - The stakeholder is for all Muslim especially for learner and student.
2. What they are expected from this courseware?
 - They are expected this courseware can give a new improvement for them especially how to pronounce the basic rules Tajweed in good way.
3. What types of Tajweed courseware learning constraints exist?
 - The courseware, website and also android application about how to learn about the Tajweed existed. However, it still has some of lack for users while using it.

4. What are the delivery options to users?

- By using CD rom for teachers at school actually, Website for Secondary students and learners, and also by smartphone for any users then can access and learn anytime they want.

5. What is the timeline for project completion?

- Provide and doing the Gantt chart timeline to make sure the product can complete on time.

6. How to solve the constraint courseware?

- Make a comparison for some existing courseware either by android application or website, then make an improvement from the disadvantages of that in new courseware.

3.2.2 DESIGN

The next phase is Design phase which is the systematic process of research, planning, identifying and specifying the complete design of the course objectives, lesson planning, topic content, training methodology, all of their forms, storyboards, user interface prepared. In this phase is about the information compiled from the analysis phase and builds an instructional images and audio training program. The design phase should be systematic and specific. This is because, to facilitate this process beyond in perfecting the new system. During this phase for this system, the whole interfaces providing have its function start from Main Menu interface, both of module and also exercise then Exit interface.

3.2.2.1 FLOWCHART

A flowchart is a type of diagram that represents an algorithm or process, showing the steps and their order by connecting them with arrows. This flowchart diagram representation the whole process of this courseware flow. Process operations are represented in these boxes, and arrows, they are implied by the sequencing of operations. Flowcharts are used in analyzing, designing, documenting or managing a process or program in various fields.

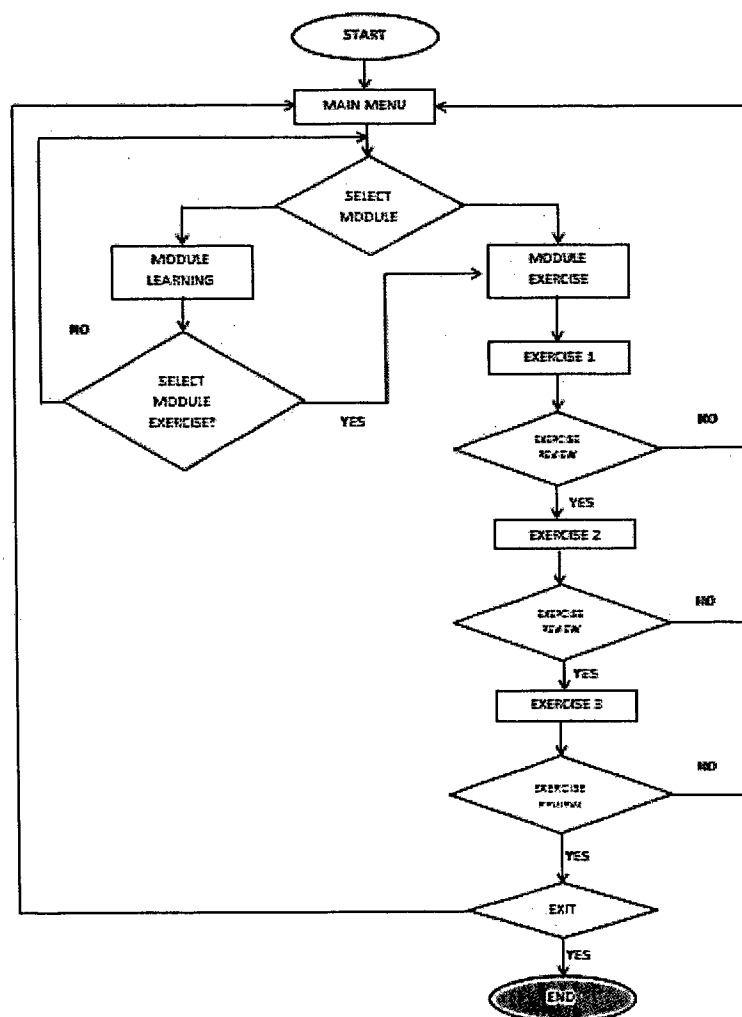


Figure 3.2: Flowchart of courseware module for Tajweed learning

- I. Start: when users click this button, they are now at Main Menu interface of Learn Basic of Tajweed.
- II. Main Menu: Description and introduction about this courseware of Basic Tajweed.
- III. Select Menu: the users have two options either to choose Module Basic Tajweed first or Module Pronunciation.
- IV. Module Basic Tajweed: in this module, users providing about how to know about five important basic Tajweed. This system also recommends the users to learn his module first before the other one module.
- V. Exercise: users must be complete the two modules before continue to this two exercise based on the module. If they are not complete the module learning, it has an alert message/ popup message to complete that before continue the next page. The all exercise related to the two modules only.
- VI. Exercise Review: To review for all exercise either it is complete or not. Evaluation mark from the every completed Exercise.
- VII. End: close the courseware application and can restart the courseware again.